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Twenty years of EU accession: learning lessons from Central and Eastern European agriculture and rural areas

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Abstract

Twenty years have passed since the first eastern enlargements of the European Union (EU). This paper assesses the impacts of EU accession on agriculture and rural regions of Central and Eastern European countries and identifies the reasons behind differences in country performance. Results suggest that EU accession brought modest convergence with established Member States. However, countries capitalised on the opportunities given by EU membership to differing extents. Specifically, the Baltic countries and Poland performed best post-accession, while Croatia, Slovenia, and Hungary witnessed much slower rates of convergence. The findings are consistent with the notion of convergence clubs, with persistent variations in catch up rates between groups of states. To explain membership of lower- and higher-speed convergence clubs, the paper identifies four sets of factors, namely initial conditions, pre-accession policy frameworks and actions, administrative preparedness, and post-accession policies.

Keywords: Agriculture, Central and Eastern Europe, European Union, Rural development, Convergence theory

JEL Classification: Q18

Introduction

In 2004 and 2007, 12 countries, largely from Central and Eastern Europe, acceded to the European Union (EU). This was a key landmark, signalling the end of transition from former socialist systems. However, despite detailed preparations, accession to the EU was a step into the unknown. Of particular interest, given their relative size and importance was the fates of acceding countries' agricultural sectors and rural areas (Baukó and Gurzó, 2016; Głębocki and Rogacki 2016). At the outset of enlargement, agriculture accounted for a much larger share of employment in acceding countries, and rural areas registered the lowest incomes and highest poverty rates (Macours and Swinnen 2008; Davidova et al. 2013). Consequently, integrating the post-socialist countries represented a major economic and political challenge to the EU, especially given the stubbornly high share of the EU's budget accounted for by the Common Agricultural Policy (CAP) (Buckwell and Tangermann 1997). The expected impact on agriculture and rural areas,

both in existing and in acceding countries, was one of the most debated and contested topics of the enlargement process (Blazyca et al. 2016; Nemes 2005).

The twentieth anniversary of the EU's eastern enlargement represents an opportune point to assess developments in Central and Eastern European agriculture and rural areas, evaluating outcomes in light of initial expectations. This can contribute to wider European and sectoral development theories as well as helping guide, and predict the impacts of, potential future enlargements, in the Western Balkans as well as other applicant countries like Ukraine, Moldova and Georgia.

This 'big picture' paper addresses the following questions:

1. What has been the impact of EU accession on agriculture and rural areas in Central and Eastern Europe?
2. To what extent has convergence between established and newer Member States been achieved?
3. What factors explain national variations in post-accession performance in relation to agriculture and rural development?

The paper contributes to the existing literature in three ways. First, it provides an overview of the performance of CEE agriculture and rural areas utilising the latest data available. Second, it assesses individual country performance, ranking each of them to consider how countries utilised the possibilities given by EU membership. Third, it provides a political economy-based discussion of the factors leading to varying post-accession performance, drawing lessons learned from the 20 years of accession.

The paper is structured as follows. The next section provides a review of relevant literature, followed by the description of the methodology used for assessing performance. The subsequent section provides descriptive statistics on the most important indicators used and shows the results of the ranking exercise, identifying three distinct convergence clubs. The following section discusses the results from a political economy perspective, identifying factors that explain differences between lower- and higher-speed convergence clusters, before drawing conclusions.

Literature review

Prior to accession, a substantial literature sought to understand the potential impacts of transition on Central and Eastern Europe, and anticipate the effects of EU accession (Swinnen et al. 2005; Davidova et al. 2005). Much of this literature and post-accession research considers likely convergence between established and new Member States. In this context, convergence refers to 'the process of reconciling and bringing closer the economic level of acceding countries with that of the developed economies in the European Union' (Vintrová, 2004), so that there would be 'equalisation of growth rates and diminution of the income gap' (Cieřlik and Wciřlik 2020).

Petrakos et al. (2011) summarise three theories which suggest that accession would lead to convergence between existing and acceding Member States. The first, based on *neoclassical theories of growth* (Solow 1956), and assuming substitutability between capital and labour and the same exogenous technology, argues that if one country has a lower initial income per capita and lower ratio of capital to labour than another, the

former offers a higher marginal product of capital (higher returns). A higher marginal product of capital ensures that the poorer country attracts more foreign capital and faster growth (Matkowski and Próchniak 2007). For agriculture and rural areas, at the outset of accession there was a substantial discrepancy in the level of capitalisation and yields between the new and established Member States, leading to substantial opportunities and pressures for catch up (Buckwell and Tangermann 1997).

A second rationale for convergence rested on the *neoclassical factor movement model* (Barro and Sala-i-Martin 1990), which assumes that factor prices equalise in a single market, as low-wage regions attract capital and high-wage regions attract workers. The movement of the factors of production may, however, be limited by government policies, for instance restricting migration (Åslund 2018). A final set of arguments for convergence rests on *neoclassical trade theory* and the notion of comparative advantage (Samuelson 1949). This assumes that trade integration, in the absence of barriers to the sale of goods internationally, leads to convergence in product and factor prices. Through trade integration, returns to capital and labour converge, which in turn, narrows discrepancies in incomes (Petrakos et al. 2011).

Empirical evidence, at the macroeconomic level, suggests that post-accession convergence in income levels per capita occurred between the existing (e.g. EU-15) and acceding member states from Central and Eastern Europe (Åslund 2018). Macroeconomic convergence occurred both in the period before the 2008 financial crisis (Matkowski and Próchniak 2007) and afterwards (Åslund 2018). Yet, the rate of convergence has been modest (Åslund 2018; Matkowski and Próchniak 2007).

However, the New Economic Geography approach (Krugman 1991) suggests that convergence forces play out differently in urban and rural areas. Specifically, in Krugman's (1991) *core-periphery model* of two regions and two sectors (i.e. agriculture and manufacturing), low transportation costs and strong scale economies stimulate circular causation. Namely, the more manufacturing locates in one region, the larger that region's share of demand, which provides further incentives to locate more manufacturing there. As the core region expands, demand for services in that location increases, drawing in capital and labour. In terms of circular causation, the 'centripetal' pull of market size is only countered by 'centrifugal' force of dispersed natural resources (Krugman 2011).

Since Krugman's (1991) pioneering research, further work on agglomeration theory (Puga 2010; Fujita et al. 2001) argues that urban regions achieve higher rates of economic growth than rural ones due to their greater density of people, business, and finance. Theoretically, Duranton and Puga (2001) model the advantages of agglomeration in terms of matching, sharing, and learning. Matching refers to hiring labour, with urban areas offering a larger and more diverse pool of potential workers, improving the quality of each match, and reducing employers' search costs. Sharing refers to indivisibilities in the production of some goods and facilities, with cities better able to facilitate the sharing of indivisible public goods, production facilities, and marketplaces (Duranton and Puga 2003). Learning encompasses both tacit and codified knowledge with in-person contact superior for generating information and skill spillovers (Glückler 2007), especially in knowledge-based sectors and the creative industries (Florida 2014). According to agglomeration theory, urban areas, due to greater population density and physical

proximity facilitate learning and knowledge spillovers better than rural areas (Duranton and Puga 2003).

In core-periphery models, given the presumed benefits of agglomeration, rural areas can suffer a downward spiral of decline (Annunziata et al. 2024). Specifically, economic restructuring leads to a decline in labour-intensive agriculture and the generation of surplus labour. Out-migration to more prosperous, urban regions, further suppresses purchasing power, service provision, and employment opportunities, prompting further waves of out-migration (Raagmaa, 2015) – a process of circular causation (Myrdal 1971). Consequently, a downward cumulative cycle leads to reinforcing a lower level of development (Myrdal 1971). According to such models, rather than leading to convergence for rural areas, economic integration, such as experienced with EU accession, may lead to greater divergence (Annunziata et al. 2024).

New Economic Geography core-periphery models are, however, not without critics (Martin 1999). Specifically, such models downplay the importance of the social, cultural, political and institutional embeddedness of regional and national economies, which are important determinants of development (Martin 1999; Myrdal 1971). In particular qualitative aspects are ignored, so that agglomeration benefits can be overstated—the lure of a rural living environment, especially to raise a family, may facilitate the attraction and retention of skilled workers (Bosworth and Bat Finke 2019). Moreover, rural regions can be important sites of economic dynamism, drawing on indigenous social, natural, and economic capital (Gkartzios and Lowe 2019). Digital connections may reduce the importance of physical proximity and improve the viability of rural places (Tiwasing et al. 2023).

A second critique of the neoclassical convergence thesis, argues that it pays insufficient attention to country heterogeneity – so that rather converging to a single steady state, groups of countries converge around different steady states, a process known as cluster or club convergence (Monfort et al. 2013). Previous research considering macroeconomic indicators suggests that EU member states fall into different convergence clubs, characterised by different speeds of convergence level identifies different clubs (von Lyncker and Thoennesen 2017). Convergence clubs are often formed geographically – within Europe, for example, the southeast has a distinctly different dynamic from the northwest (von Lyncker and Thoennesen 2017; Monfort et al. 2013).

The macroeconomic literature on convergence clubs identifies determinants of which particular club a country or region belongs (von Lyncker and Thoennesen 2017; Bartkowska and Riedl 2012). Namely, *initial conditions*, as well as pre- and post-accession policies are identified as significant determinants of club membership (Bartkowska and Riedl 2012; Cavallaro and Villani 2021). This implies that how convergence forces play out in part depends on a country's starting position, but not entirely – effective governance and strategy could enable a state or region to jump from a lower growth to a higher growth cluster (Bartkowska and Riedl 2012; Cavallaro and Villani 2021). Applying this theory to agriculture and rural areas, suggests that membership of particular clusters will depend on initial structural characteristics, as well as pre- and post-accession policy, with the CAP central to the latter.

At the outset of accession, expectations regarding the impact of adopting the CAP varied enormously. Bach et al. (2008), for instance, analysed the economic impact of

extending the CAP to Central and Eastern Europe Countries (CEECs), predicting that agricultural production would increase substantially in acceding countries, generating significant welfare gains. However, Bchir et al. (2003), employing a Computable General Equilibrium (CGE) approach, forecasted that EU accession would provoke huge swings in relative prices and fluctuations in real exchange rates. The latter predicted that the impact of accession on the EU's existing members would be negligible, but new Member States would face huge and not always beneficial consequences (deterioration of terms of trade by removed barriers; inefficient sectors continuing to lag in competitive terms). Debates varied regarding whether higher budgetary support for agriculture would benefit rural areas more widely (Gorton et al. 2009), and the extent to which acceding countries' agri-food sectors and rural economies could catch up with those in existing Member States (Rizov 2006; Swinnen et al. 2001). Moreover, accession involved new Member States largely adopting existing EU policy instruments, prompting discussion of whether these would enable the narrowing of income discrepancies, given the challenges faced (Agnew 2016). Some concluded that the CAP's first and second pillars were reformed insufficiently to accommodate CEE accession effectively, representing a failure of the EU to adjust adequately from an exclusively Western European institution into an appropriate pan-European organisation (Gorton et al. 2009; Csáki and Jámboor 2013; Beckmann and Dissing 2005).

While convergence theory attracted considerable attention at a macroeconomic level in the EU, applications to the context of agriculture and rural regions are scant. Moreover, while at the outset of accession, predictions typically generalised across the CEECs, post-enlargement evidence suggests substantial variations between the new Member States in terms of the fortunes of their agri-food sectors and rural areas (Jámboor et al. 2016). The degree to which agriculture and rural areas in Europe are converging or diverging thus remains debatable (Petrakos et al. 2011; Giannakis and Bruggeman 2019), and the subject of empirical investigation, as discussed in the next section.

Methodology

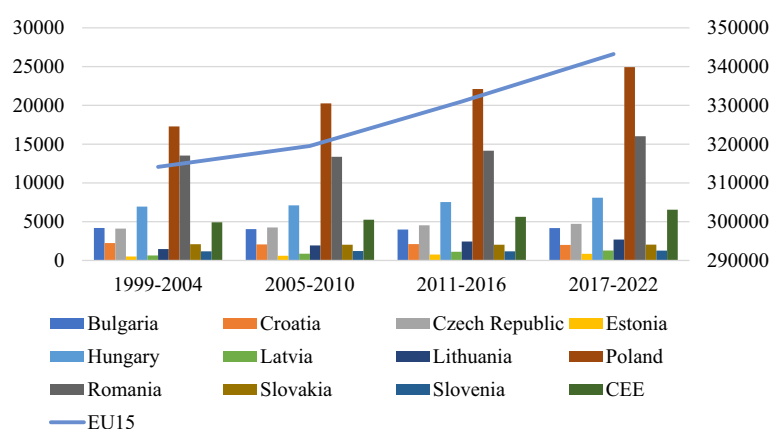
Geographically, the paper focuses on 11 CEE countries (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) twenty years after European Union accession. These states are collectively referred to as the CEE-11. Although Bulgaria and Romania acceded in 2007, and Croatia in 2013, their location in the region, justifies inclusion in the analysis. In contrast, despite Cyprus and Malta joining the EU in 2004, but because they are not located in Central and Eastern Europe and their agriculture / rural sectors are relatively small compared to other countries analysed, we omitted them from the analysis.

Our dataset contains observations for the 1999–2022 period for all countries and for comparison and visualisation purposes, we divided this period into four sub-periods (1999–2004, 2005–2010, 2011–2016, 2017–2022). Several indicators were used to capture the most important impacts of EU membership (see Table 1 for more details).

The paper uses two approaches to analyse and rank post-accession performance. First, it uses a performance score (Index 1), which is similar in approach to Jámboor et al. (2016), measuring individual country performance from 2002 to 2004 (2005–2007 for Romania and Bulgaria and 2011–2013 for Croatia) to 2020–2022 (taking into account

Table 1 Description of indicators. Source: own composition

Indicator name	Unit of measurement	Data source
Agricultural output	Mmillion euro in 2015 constant prices	Eurostat
Land productivity	Euro/ha calculated as agricultural output per utilised agricultural area	Eurostat
Labour productivity	Euro/annual working unit, calculated as agricultural output Per annual working unit	Eurostat
Agri-food trade balance	million euro based on SITC0 and SITC1 product categories	Eurostat
Real GDP/capita	Euro/capita (in PPS)	Eurostat
GDP/capita in predominantly rural regions	% of EU27 average, PPS	Eurostat
Rural/Urban population	% of rural population of urban population	FAOSTAT

**Fig. 1** Agricultural output in Central and Eastern Europe (million euro in 2015 prices). Note: left axis is for CEE-11 countries, right axis is for EU-15 averages. Source: own composition based on Eurostat (2024a, b) data

the different times of accession). Practically, the score rescales changes in performance between the first and last sub-periods for different indicators to a 0–100 scale and sums the scores for all indicators for ranking purposes. The second approach (Index 2) considers performance changes from the first to the last sub-period compared to CEE-11 and EU-15 averages, utilising the following scoring: 0 if country performance for a specific indicator is worse than CEE-11 and EU-15 averages; 1 if performance is between CEE and EU15 averages and 2 if performance is better than both CEE-11 and EU15 averages. Adding up these scores for each indicator produces a final ranking for Index 2. For both indexes, as countries are ranked on the basis of their performance, initial differences do not play a role. No weightings were used in calculating the indexes, so that no one measure is treated as more important than another. Table 1 presents an overview of the indicators used.

Analysis: 20 years of performance

One of the most widely used indicators to measure a country's rural performance is agricultural output. As Fig. 1 suggests, there are substantial differences in CEE countries' agricultural performance based on output during the past two decades. Poland had the highest output for all periods, while Estonia produced the least in terms of agricultural

output. Note, however, that agricultural output of the EU-15 was 50–60 times higher in the different sub-periods than in the CEE, although the gap declined between 1999–2004 and 2017–2022. Specifically, during this period, agricultural output grew by 9% and 33% in the EU-15 and CEE, respectively. On a country basis, Latvia was able to double its agricultural output between the first and the last sub-period, while Croatia, Slovakia and Bulgaria could not increase their agricultural output in the period analysed. One reason for the latter differences, is the extent of structural change – between 2002 and 2022 the average size of farm holdings in Latvia more than doubled to reach 34.8 hectares (European Commission, 2023b), while in the same timeframe changes in Croatia have been far more modest, ending the period with an average farm size of 11 hectares and almost 70% of all farms still operating on less than 5 hectares (European Commission, 2023a).

Agricultural productivity is an important indicator for assessing the impacts of EU accession. In terms of land productivity, at the point of accession, Slovenia led the CEE-11 region with values of around €2000 per hectare (ha), while Latvia had the lowest values of approximately €500 euro/ha. Post-accession, all countries witnessed increasing land productivity except Croatia and Slovenia. Note, however, that overall no convergence between the CEE-11 and EU-15 in terms of land productivity is observable as a 19% growth from the first to the last sub-period was visible for both regions, so that the initial 2.5 times difference in land productivity remains (Fig. 2). Behind, the CEE-11 average however, substantial variations between countries regarding changes in land productivity are evident – with above trend increases in Poland.

Regarding agricultural labour productivity, convergence between Western and Eastern Europe has occurred, as the CEE-11 increased its labour productivity by 2.5 times from 1999–2004 to 2017–2022, while for the EU-15 growth was 1.5 times – consequently the labour productivity gap between the two regions decreased from approximately 5 times to 2.5 times (Fig. 3). Post-accession, the CEE-11 witnessed a substantial decline in the agricultural labour force. For instance, during the period 2009–2023, agricultural labour input in Bulgaria declined at almost 8 per cent on average per year (Eurostat 2024a). Regarding individual country differences, Estonia led the region with its agricultural labour productivity growth of 5 times, while Croatia had the lowest labour productivity growth (18%) in the period analysed (all

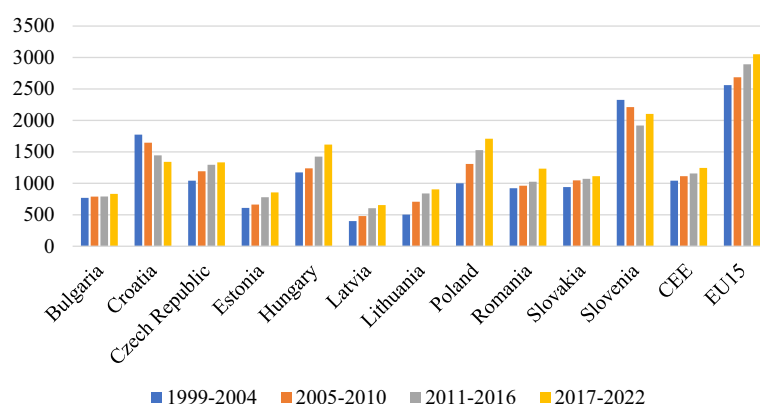


Fig. 2 Land productivity in Central and Eastern Europe (euro/ha in 2015 prices). Source: own composition based on Eurostat (2024a, b) data

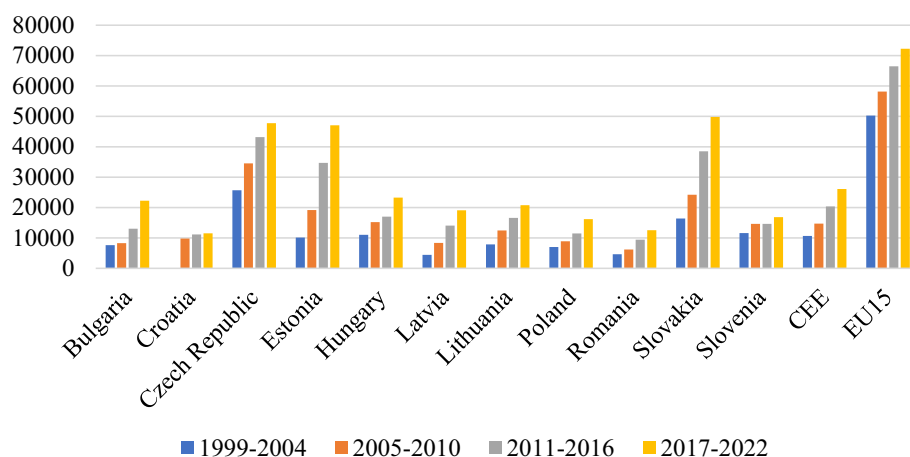


Fig. 3 Agricultural labour productivity in Central and Eastern Europe (euro/annual working unit in 2015 prices). Source: own composition based on Eurostat (2024a, b) data

countries increased their labour productivity after accession). The latter reflected in part the slow pace of structural change in Croatia, and the continued preponderance of small-scale farms (European Commission, 2023a). In absolute terms, Slovakia, the Czech Republic, and Estonia had the highest values for agricultural labour productivity in the region, while Croatia and Romania had the lowest.

Agri-food trade performance also varied substantially after EU accession. The success of Poland is evident here, changing from being a net importer in 1999 to a substantial net exporter of agri-food products after accession. In fact, Poland has become the regional leader in agri-food exports in absolute terms. It experienced a remarkable 20 times growth in its agri-food trade balance from 1999–2004 to 2017–2022 – only outpaced by, the much smaller, Lithuania (48 times growth). Most CEE countries remained agri-food importers, while Poland and Hungary were the only states with substantial net agri-food trade balances in EU-15 terms. The gap between the CEE-11 and the EU-15 in terms of their agri-food trade balances, however, decreased substantially (Fig. 4).

Changes in GDP/capita is an important indicator of post-EU accession performance. From 1999–2004 to 2017–2022, all countries witnessed increasing GDP per capita, though to a varying extent (Fig. 5). The highest per capita GDP growth was observable in Lithuania (121%), while Slovenia recorded the lowest (37%). However, in absolute terms, Slovenian citizens had the highest standard of living, while Bulgarians had the lowest. The initial gap of the EU15 having 4 times higher GDP per capita decreased to 2.8 times by 2017–2022, suggesting a degree of convergence in welfare levels.

However, a different picture is visible for rural regions. GDP per capita in predominantly rural regions compared to EU27 averages was the highest in the Czech Republic during the whole period, while Bulgaria witnessed the lowest values (Fig. 6). Romania showed the highest growth in this regard (+109%), while Slovenia showed the lowest (+3%). Note that according to CEE-11 averages, people living in rural regions could only reach around half of the welfare of urban citizens. A substantial income gap persists between rural regions in the EU15 and CEE-11.

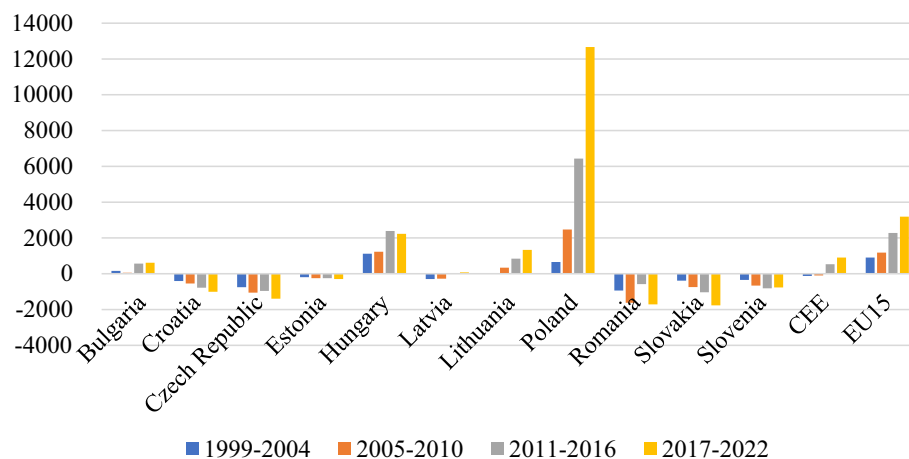


Fig. 4 Agri-food trade balance in Central and Eastern Europe (million euro). Source: own composition based on Eurostat (2024a, b) data

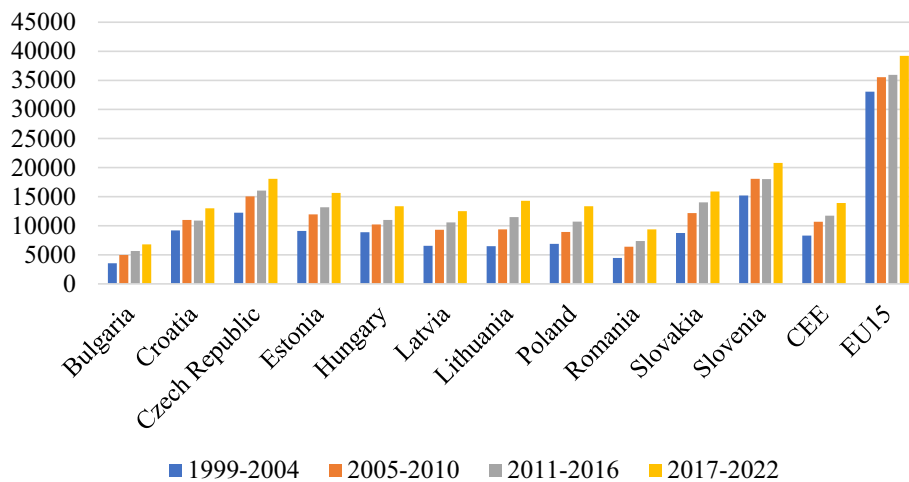


Fig. 5 Real GDP/capita in CEE (euro/capita). Source: own composition based on Eurostat (2024a, b) data

Regarding changes in the rural and urban populations, the importance of the rural population in CEE remained a strong characteristic (Fig. 7). The rural population has been steadily decreasing in CEE countries in the period analysed, though to varying extents. Bulgaria showed the biggest decrease in this regard, consistent with large-scale, rural out-migration, while Poland and Slovakia showed some signs of rural population increase, to accessible villages and rural towns around major cities (Wilkin 2020). Consequently, variations between rural regions within the same country grew. On this indicator, the gap between the CEE-11 and EU-15 remained the same for the whole period.

Using the two methods described above, three convergence clubs are apparent. The first club consists of the Baltic countries and Poland, which recorded the highest scores on both indexes, suggesting these countries increased their performance to the highest extent from 2002–2004 to 2020–2022 compared to their own baselines (Table 2). The second club consists of the Czech Republic, Slovakia, Romania, Bulgaria, and Hungary,

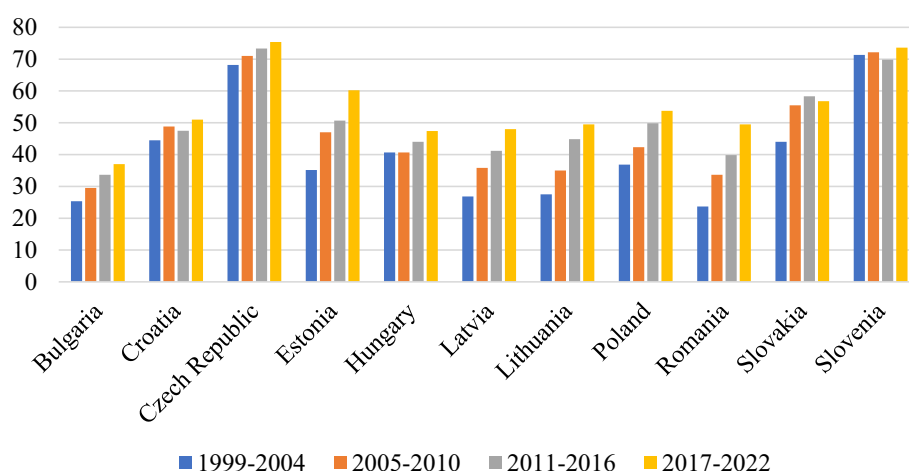


Fig. 6 GDP per capita in predominantly rural regions of Central and Eastern Europe (PPS, % of EU27 average). Source: own composition based on Eurostat (2024a, b) data

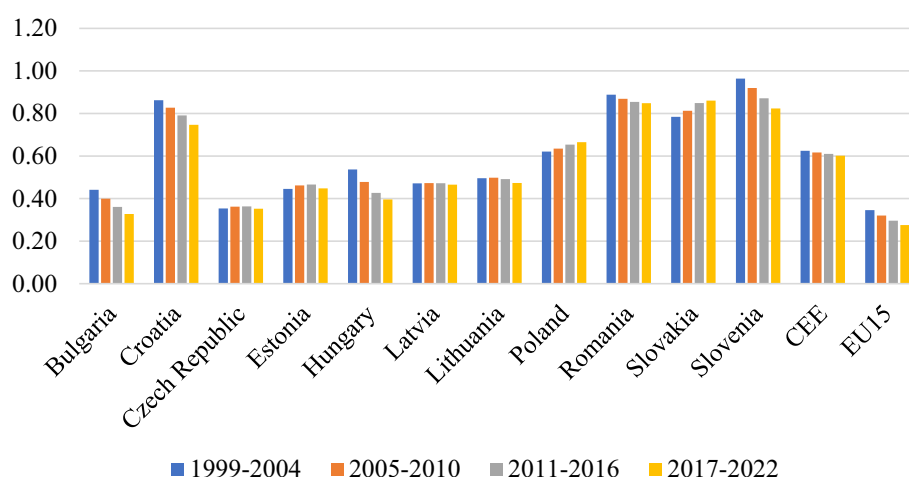


Fig. 7 Rural/Urban population in Central and Eastern Europe (rural percentage expressed as an index between 0 and 1). Source: own composition based on FAO (2024)

Table 2 Overall post-accession performance scores. Source: own composition

Country	Index 1	Country	Index 2
Lithuania	598	Lithuania	13
Latvia	527	Latvia	13
Poland	482	Poland	13
Estonia	441	Estonia	11
Romania	304	Romania	9
Slovakia	284	Slovakia	7
Bulgaria	253	Czech Republic	7
Czech Republic	202	Bulgaria	6
Hungary	160	Hungary	5
Croatia	86	Croatia	4
Slovenia	82	Slovenia	3

consisting of states characterised by middling performance. The third club contains Slovenia and Croatia, who record the lowest scores on both indexes, implying that the impact of EU accession in these cases was far more modest, the least in their agriculture sectors and rural areas, largely conserving their initial situations. The next section discusses these patterns in greater depth.

Discussion

The analysis indicates that, overall, on most agriculture and rural indicators, the CEE-11 experienced modest convergence with the EU-15 in the post-accession period. In this regard, the situation mirrors macroeconomic trends (Åslund 2018; Matkowski and Próchniak 2007). However, considering the performance of specific countries, widespread variation occurred – some states performed consistently above the CEE-11 average, while others below, despite a common policy environment in the form of the CAP. Consequently, convergence clubs (Bartkowska and Riedl 2012) are evident, with some groups of states moving towards EU15 levels at faster rates than others. Specifically, based on the indicators analysed, three convergence clubs are evident (Table 2). Theory suggests that initial conditions as well as pre- and post-accession policies explain variations in convergence cluster membership (von Lyncker and Thoennessen 2017; Monfort et al. 2013). The discussion considers these factors, in relation to agriculture and rural development, in turn.

Initial conditions

Countries joining the EU had their own histories, including those creating a market economy from a socialist regime. The process towards moving to a market economy, including land privatisation, changing agri-economic and institutional structures, resulted in different starting points for the accession process (Hartvigsen 2014; Swinnen et al. 2001). For instance, most agricultural land in the former Yugoslavia was farmed by small-scale family farms during the socialist era, so that land reform did not fundamentally change the structure of farming (Hartvigsen 2014). Rather the high fragmentation of land ownership, present before the Second World War, persisted into the post-socialist era (Hartvigsen 2014; Penavic and Medic 2005). After independence, Croatia abandoned land consolidation as an objective, with both it and Slovenia characterised by stable and very fragmented farm structures throughout the post-socialist (Bojnec and Swinnen 1997). In contrast, after gaining their independence, the Baltic States experienced far more substantial structural change, breaking up their former state and collective farms, which previously dominated production and land use, and returning the land to pre-Soviet owners, (Hartvigsen 2014). This initially led to a very fragmented, subsistence-oriented, low productivity farm system (Tisenkopfs 1999). However, as most restituted farms were not viable, structural change and consolidation has been rapid – for instance in Estonia by 2023 the average farm size was 91 hectares, compared to circa 20 hectares in 2004 (OECD 2018; Statistics Estonia 2024).

Pre-accession policy frameworks and actions

Measures in favour of competitiveness enhancement proved to be beneficial (Csáki and Jambor 2013) and led to increased preparedness for the enlarged market. Countries like

Poland where direct agricultural subsidies to farmers remained at a low level prior to EU membership gained with accession through the provision of incentives for farmers to become more competitive. A similar situation occurred in the Baltic states, where pre-accession support for farmers was very modest when compared against the EU (Frohberg and Hartmann 2000). At the other end of the spectrum, countries like Slovenia, Hungary, and Romania provided initially high and uneven price and market support to their farmers, who gained less with accession. Moreover, the lack of competitiveness enhancement measures turned out to be counter-productive and resulted in farmers being ill prepared for EU accession (Rozelle and Swinnen 2004).

The differently implemented land and farm consolidation policies also played a role in the post-accession performance of CEE-15 countries. Restrictive pre-accession land policies applied in the 1990s (e.g. Hungary) together with a lack of farm consolidation (e.g. Slovenia, Croatia, Hungary) limited much needed capital inflows into the sector, while liberal land and farm policies (e.g. Baltic countries) helped agriculture and rural regions to receive more investment and consolidation, preparing better for the competitive market brought by EU enlargement.

Administrative preparedness

In some countries, poor preparation and delays in setting up the necessary infrastructure and systems as well as slow adjustments to the new system resulted in the loss of pre-accession funds, hindering post-accession performance. An important lesson from the domain specific pre-accession funding mechanism, namely the Special Accession Programme for Agriculture and Rural Development (SAPARD) was that benefits were lost or delayed where institutional and cultural tensions between EU-centric administrators and traditional, 'distribution of spoils' administrative cultures persisted (Elliott 2005).¹ In some countries, the process of constructing rural development plans for SAPARD descended into warring factions within Ministries of Agriculture attempting to sabotage others' efforts (Elliott 2005). In such environments, political decision-making took precedence over public administration, leading to long delays in administering funds, funds not being dispersed entirely, or ineffectively spent (Wilkinson 2004). As a policy field, agriculture and rural development is characterised by 'deep integration' within the EU, so that the pre-accession period required considerable institutional building for administering the CAP. While some acceding countries embraced this, welcoming opportunities for lesson-drawing, borrowing, and learning from abroad (for instance the Baltic States looked to Scandinavian Member States for inspiration and advice), others were reluctant 'foot draggers' (Börzel 2002).

Post-accession policies

Although most countries opted for the Simplified Area-based Payment System (SAPS), the national budget-based top-up of subsidies strongly determined the level of direct payments received by individual farmers (Davidova 2011). The comforting nature of

¹ The other two important pre-accession EU funding streams for CEE countries were PHARE and ISPA. PHARE (Poland and Hungary Aid for Reconstruction of Economies) was established in 1989 and extended to other CEE states. Its focus shifted from the development of a market economy to capacity building in public administration. ISPA (Instrument for Structural Policies for Pre-Accession) was established in 1999 and focused on regional development.

direct payments also had an impact. While direct payments have some positive effects such as easing credit constraints (Latruffe et al. 2010) and reducing land abandonment (Brady et al. 2017), they also slow structural change and improvements in competitiveness by retaining more farmers and farms in the sector, than would be otherwise the case (Brady et al. 2017). Direct payments including optional national top ups, in euros per hectare, have been lowest in the Baltic States, and highest in Croatia, followed by Slovenia and then Hungary (European Commission, 2023c). Moreover, those countries focusing on short-term advantages and on raw material production and low value-added exports have lagged (e.g. Romania and Bulgaria), while those investing in processing capacities and higher value-added agri-food exports together with competitiveness enhancement (e.g. Poland) have performed better (Gheorghe et al. 2017). Notably, increases in agri-food exports, post-accession, are associated strongly with improvements in product specialisation and competitiveness (Bojnec et al. 2021).

To be effective, it is important that Rural Development Programmes (RDPs) address the economic, social, and environmental challenges facing rural regions. Analysis of support to the food processing sector as part of Poland's RDP indicated that it contributed to structural change and modernisation, with an increase in both the total number of firms and also exiting firms (Michalek et al. 2020). Well-crafted and administered RDPs can thus accelerate the speed of convergence in sectors and between regions. However, this has not happened in all countries. Specifically, Muraközy and Telegdy (2016, p.339) find evidence of political favouritism so that “politicians or politically appointed civil servants can also influence the decisions of large and visible projects to some extent, but the rigid institutional structure of EU grant allocation pushes part of fiscal favouritism before decision-making, which materialises in larger application flows from aligned municipalities.” In such cases, “spectacular” but low value-added rural development projects can become ubiquitous.

In the design of rural development initiatives, it is useful to distinguish between those which are transformational – implementing new practices, processes and institutions to achieve long-term societal goals (Castro-Arce and Vanclay 2020) from fire-brigade policy making, where long-term development goals are sacrificed due to short-term political interests. With the latter, even good ideas are implemented inefficiently (Csáki and Lerman 1997). Drost (2013) compares agricultural policy making in Poland and Romania, noting that the latter often implemented short-term support policies for agriculture which delayed structural change and much needed capitalisation of the sector. In contrast, while structural problems nonetheless remain, Poland ‘is able to better access the EU-funds and to make use of them’ (Drost 2013;p.86). A long-term transformational vision is essential for maximising the RDP benefits and this is most evident in terms of how countries think about value added in their agriculture and rural areas (Bock and Krzysztofowicz 2021).

However, rural areas’ post-accession performance in the CEECs depends on far more than the CAP and how European funds are utilised. Specifically, growth in other economic sectors has important spillover effects. Post-accession, the Polish and Lithuanian economies grew particularly strongly, while growth in Croatia and Slovenia has been much more modest (Eurostat 2024b). Consistent with core-periphery (Annunziata et al. 2024; Krugman 1991) and cumulative causation (Myrdal 1971) models, accessible rural

regions, located around growing capital cities like Warsaw and Budapest, are gaining population. Increases in the population in accessible rural locations around buoyant capital cities is skewed to the middle classes, looking for greater space and a perceived better environment for raising children (Spórna and Krzysztofik 2020). In contrast, remote villages, distant from growing urban economies, continue to witness out-migration and population decline, further suppressing purchasing power, economic activity and promoting fresh out-migration, particularly of the young (Nugin 2014). This is particularly evident in Romania and Bulgaria (Spina 2017). Such remote locations have attracted very little new capital, in contrast to the predictions of the neoclassical factor movement model (Barro and Sala-i-Martin 1990). Thus, while there has been modest convergence between the CEE-11 and EU-15 on many indicators, within the CEECs there is now greater divergence in rural regions' fortunes (Bański 2019). In this regard, the situation in CEE increasingly resembles that of many EU-15 countries (Annunziata et al. 2024).

Finally, the analysis generates lessons for future enlargements and candidate countries. EU membership is often regarded as “the gift that keeps on giving” (ESPON 2023) and using a synthetic control counterfactual approach, Campos et al. (2019) estimates that without accession, per capita incomes in acceding states would have been, on average, roughly 10% lower in the first decade after joining the EU. However, considerable heterogeneity in effects across the new Members States occurred, and the paper identifies three convergence clusters. Rather than merely regarding EU accession as sufficient, an important question for decision-makers in acceding countries is thus how can they ensure membership of a higher-speed convergence club rather than a lower-speed one? In answering this question, while there are factors outside of decision-makers' control, such as initial conditions, other aspects are controllable or semi-controllable, particularly relating to pre-accession policy frameworks and actions, administrative preparedness, and post-accession policies.

Conclusions

This paper assessed the varying performance of Central and Eastern European countries after 20 years of EU eastern enlargement. Specifically, EU accession has brought increasing agricultural output and productivity for the whole region, though convergence to EU15 performance levels remains modest. EU membership has also brought higher welfare levels for most countries, though increases were witnessed more strongly in urban regions due to the decreasing rural population.

Behind the overall trend of modest convergence, the paper identifies three clusters of states with different convergence rates, with some states repeatedly performing either above or below the CEE-11 average. Specifically, overall, the Baltic countries and Poland had the highest performance based on the indicators analysed, while Croatia and Slovenia had the lowest. An important consideration is thus to understand the membership of higher and lower-speed convergence clubs. In relation to agriculture and rural regions, we identify four sets of factors which determine cluster membership: initial conditions, pre-accession policy frameworks and actions, administrative preparedness, and post-accession policies. For domestic policy makers these contain a mix of controllable, semi-controllable, and non-controllable factors.

While providing an overview of performance twenty years after the start of the CEE-11 accession process, we recognise the limitations of this ‘big picture’ approach, which focuses only the national level. These limitations can guide future research. Specifically, analysis of data at NUTS 2 or 3 levels would provide a more fine-grained analysis of rural regions’ performance and determinants of variations. Qualitative insights could also be valuable. For instance, interviews with relevant public officials and RDP beneficiaries in the CEE-11, concerning their pre- and post-accession experiences, could help provide more and more detailed set of recommendations for decision-makers in EU candidate countries. Learning lessons from previous pre-accession instruments and New Member States’ early experiences of implementing the CAP can help avoid repeating common mistakes and missteps.

Author contributions

AJ did the calculations and data analysis, while MG performed the literature review and discussion sections. Both authors act as major contributors in writing the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Competing interests

None of the authors have any competing interests in the manuscript.

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